

ABSTRACT OF THE DISCLOSURE

A method, system and computer program product enhance the commercial value of electrical power produced from a wind turbine production facility. Features include the use of a premier power conversion device that provides an alternative source of power for supplementing an output power of the wind turbine generation facility when lull periods for wind speed appear. The invention includes a communications infrastructure and coordination mechanism for establishing a relationship with another power production facility such that when excess electrical power is produced by the wind turbine facility, the excess may be provided to the power grid while the other energy production facility cuts back on its output production by a corresponding amount. A tracking mechanism keeps track of the amount of potential energy that was not expended at the other facility and places this amount in a virtual energy storage account, for the benefit of the wind turbine facility. When, the wind turbine power production facility experiences a shortfall in its power production output it may make a request to the other source of electric power, and request that an increase its power output on behalf of the wind turbine facility. This substitution of one power production facility for another is referred to herein as a virtual energy storage mechanism. Furthermore, another feature of the present invention is the use of a renewal power exchange mechanism that creates a market for trading renewable units of power, which have been converted into "premier power" and/or "guaranteed" by secondary sources of power source to provide a reliable source of power to the power grid as required by contract.